NEWSLINE

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Laboratory DNA work finds multiple applications

JULIE KORHUMMEL/NEWSLINE

Aubree Hubbell sets up the polymerase chain reaction (PCR) mix in the biomedical laboratory.

By Stephen Wampler
NEWSLINE STAFF WRITER

Laboratory scientists with collaborators at Northern Arizona University and Los Alamos National Laboratory, have discovered new DNA regions unique to the bacterium that causes anthrax, potentially providing a way to improve the disease's detection.

The scientists' research, conducted during the past year, was presented Wednesday during a session at the general meeting of the American Society

See **DNA,** *page 8*

Lab DNA signature tools used to detect naturally occurring food pathogens

By Stephen Wampler
NEWSLINE STAFF WRITER

Technologies developed by the Laboratory researchers and other scientists to fight bioterrorism could find another use — detecting naturally occurring pathogens in food.

Livermore biomedical scientist Paula McCready delivered that message earlier this week during a session of the American Society for Microbiology at the Salt Palace Convention Center.

"The tools we use to develop DNA signatures for the detection of bioterrorist agents could also be used to search out food-borne pathogens," McCready said. (DNA signatures are areas or regions of DNA unique to specific organisms).

"We believe people are going to look at the problem of food-borne pathogens differently because of the new tools that are becoming available."

Finding the DNA signatures for bacteria that cause food poisoning would allow laboratories to more rapidly identify their presence in food and in the environment.

Among the bacteria that could be identified, according to McCready, are Camphylobacter, a bacterium present in undercooked chicken, or different types of Salmonella, a bacterium that can be found in eggs, juice, fruit or vegetables.

Previously, diagnostic tests to identify and

See **FOOD,** *page 8*

Atmospheric release prediction capability LINCs with Seattle

By Anne M. Stark
NEWSLINE STAFF WRITER

In the aftermath of Sept. 11 and ensuing anthrax threats, the Lab has proposed an atmospheric release assessment program that could help put the minds of city and county officials, worried about the release of airborne chemical and biological agents in their jurisdictions, at ease.

The Local Integration of National Atmospheric Release Advisory Center (NARAC) with Cities (LINC) program, funded by the NNSA's Chemical and Biological National Security Program, will provide local agencies with chemical and biological agent atmospheric plume prediction capabilities for emergency planning and response.

Seattle has been selected as the first pilot city to demonstrate this new technology.

NARAC has partnered with Public Technology Inc. (PTI), a nonprofit technology organization of the National League of Cities, the National Association of Counties, and the International City/County Management Association.

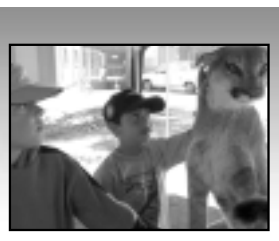
"We have a number of cities and counties that would like to be the next demonstration jurisdiction," said Don Ermak, leader of the Lab's Atmospheric Release Assessment

See **LINC,** *page 7*

A computer model of a hypothetical anthrax release over Seattle was created by scientists in the National Atmospheric Release Advisory Center.

A Memorial Day celebration

— Page 2



Showcasing nature and earth

— Page 4

An intriguing look at counterintelligence

— Page 5

LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Monday 27

The Laboratory is closed in observance of **Memorial Day**.

Tuesday 28

The LLESA **Apple Computer Networking Group** will meet at 7 p.m. in the LLNL Visitors Center auditorium. Everyone with an interest in Apple brand and compatible computers is welcome to attend. Contact: Jim Branum, 2-6766.

Wednesday 29

A representative from **Fidelity Investments** will be on-site to meet with employees today and Thursday. Fidelity Investments are available to UC's 403(b) participants in addition to the UC-managed investment funds. To make an appointment, contact Fidelity at 1-800-642-7131. Be sure to specify you are an LLNL employee.

Thursday 30

An overview on the **LLNL/UC Davis Instructional Television (ITV) program** will be offered from 10-11 a.m. in Bldg. 571, rooms 1335/1301. The UC Davis ITV program offers graduate engineering and computer science programs on-site via television. Glenn Mara, AD for Engineering, will provide the opening remarks; and Barbara Atkinson of Computation will give a short presentation. Contact: Kathy, 2-9335.

Up & Coming

To promote awareness of the June 2 anniversary of the Indian Citizenship Act, the **American Indian Activity Group** is hosting Dovie Thomason-Sickles, a storyteller, recording artist and author, on Monday, June 3 from noon – 1 p.m. in the Bldg. 543 auditorium. Employees are encouraged to attend this presentation. Contact: Darlene Yazzie, 37846.

• • •

Ticket sales and sign ups are under way for Plant Engineering's annual **Chili Cookoff** on Thursday, June 6, in the Bldg. 551E lake area, from 11:30 a.m.-1 p.m. The cost of $5 includes your choice of mild linguica or barbecued chicken, potato salad, chips, salsa, a drink and chili. Contact: Amelia Regacho, 3-2807.

Lab TV Broadcast Schedule

The **DDLS talk by Sigfried Hecker** on "60 Years of Plutonium: A Great Challenge — Then and Now," will be broadcast on Lab Channel 2 Thursday, May 30, at 10 a.m., noon, 2, 4 and 8 p.m., and on Friday, May 31, at 4 a.m.

Memorial Day gathering

Capt. Herman Busse, a World War II P-38 fighter pilot, (right) spoke at the Lab Thursday in observance of Memorial Day. The Lab's Armed Forces Veterans Association hosted the special ceremony near the Visitors Center. LLLAFVA members pictured above are (back row, from left) Jim Higgins, Jim Hamilton, Terry Burt, Marty Davis, Roy Warner and Guy Donovan; (front row) Rocky Faaita, Dianne Buckhout, Chelle Clements and Earl Kelly.

DON JOHNSTON/NEWSLINE

BRIEFLY

Four Fleet employees hailed as champions of green govenment

Four LLNL employees received the EPA Champions of Green Government Award for Implementation of Pollution Prevention Practices at LLNL's Fleet Maintenance Facility.

Sal Ruiz, Beverlee Morales, Jose Pineda and Dennis Ouka of Fleet Management were honored May 15 during ceremonies at EPA's Western Regional Federal Facilities Conference in Sparks, Nev. The Fleet Management Team received a plaque along with a certificate for each team member.

The Fleet Management Team has undertaken a series of projects to minimize hazardous waste generation at Fleet Management Facilities in Bldg. 611 and Bldg. 879. Team members worked closely with the LLNL Pollution Prevention Team to obtain DOE High Return on Investment (ROI) funds for the purchase and installation of equipment.

Their efforts began with the installation of an antifreeze recycling system in 1996, followed by the purchase and installation of two water-based bioremediating light-duty cleaning systems. In 2000, the team installed a water-based system to clean brakes, which reduced the use of volatile organic compounds (VOC)-based brake cleaner solvent. Most recently, the facility added an aqueous parts washer, specifically designed for heavily soiled parts. The group is now installing a vehicle wash water reclamation system.

In addition to minimizing waste and using greener cleaning methods, the fleet management facility uses only re-refined motor oil, recycles air conditioning refrigerant (freon), and provides compressed natural gas as a less-polluting alternative fuel for certain vehicles in LLNL's fleet.

DOE/LLNL math challenge attracts nearly 100 students to the Lab

Nearly 100 students and 11 teachers from 11 Bay Area high schools participated in the 13th annual DOE-OAK/LLNL Math Challenge held at the Lab recently.

The first, second, and third place winning teams were from Homestead High of Cupertino, Lowell High of San Francisco, and Harker High of Sunnyvale, respectively.

The Math Challenge, which was held May 11, is designed to foster greater interest in mathematical sciences. The competition included a one-hour written math test made up of 12-15 questions and a one-hour puzzle competition.

Book certificates for $50 were awarded to all three members of the first and second place teams and $25 book certificates were awarded to the members of the third and fourth place teams.

In addition, the Math Science Network presented $20 book certificates to the four highest scoring women. For more information about the math challenge, go to http://education.llnl.gov/mc)

Regents OK retirement benefits for employees with domestic partners

The UC Board of Regents voted to extend to eligible UC employees with domestic partners a set of retirement benefits mirroring those now offered to married UC employees.

Employees who are members of the UC Retirement Plan (UCRP) and their qualified domestic partners and/or family members will now be able to receive two types of death-related retirement benefits: pre-retirement survivor income — income paid to an eligible domestic partner, eligible child(ren) or eligible parent if the UCRP member dies while employed at UC; and post-retirement survivor continuance — income paid to an eligible domestic partner, eligible child(ren) or eligible parent if the UCRP member dies after leaving UC.

The new benefits will be effective July 1 for eligible UCRP members and will not apply to UCRP retired members with retirement dates of June 30, 2002, or earlier. Where appropriate, these benefits are subject to collective bargaining agreements.

Newsline

Newsline is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.

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1952 – 2002
MAKING HISTORY, MAKING A DIFFERENCE

Using models to prevent planetary sunburn

This is an ongoing feature highlighting the Lab's 50-year history. This week we take a look at the year 1972.

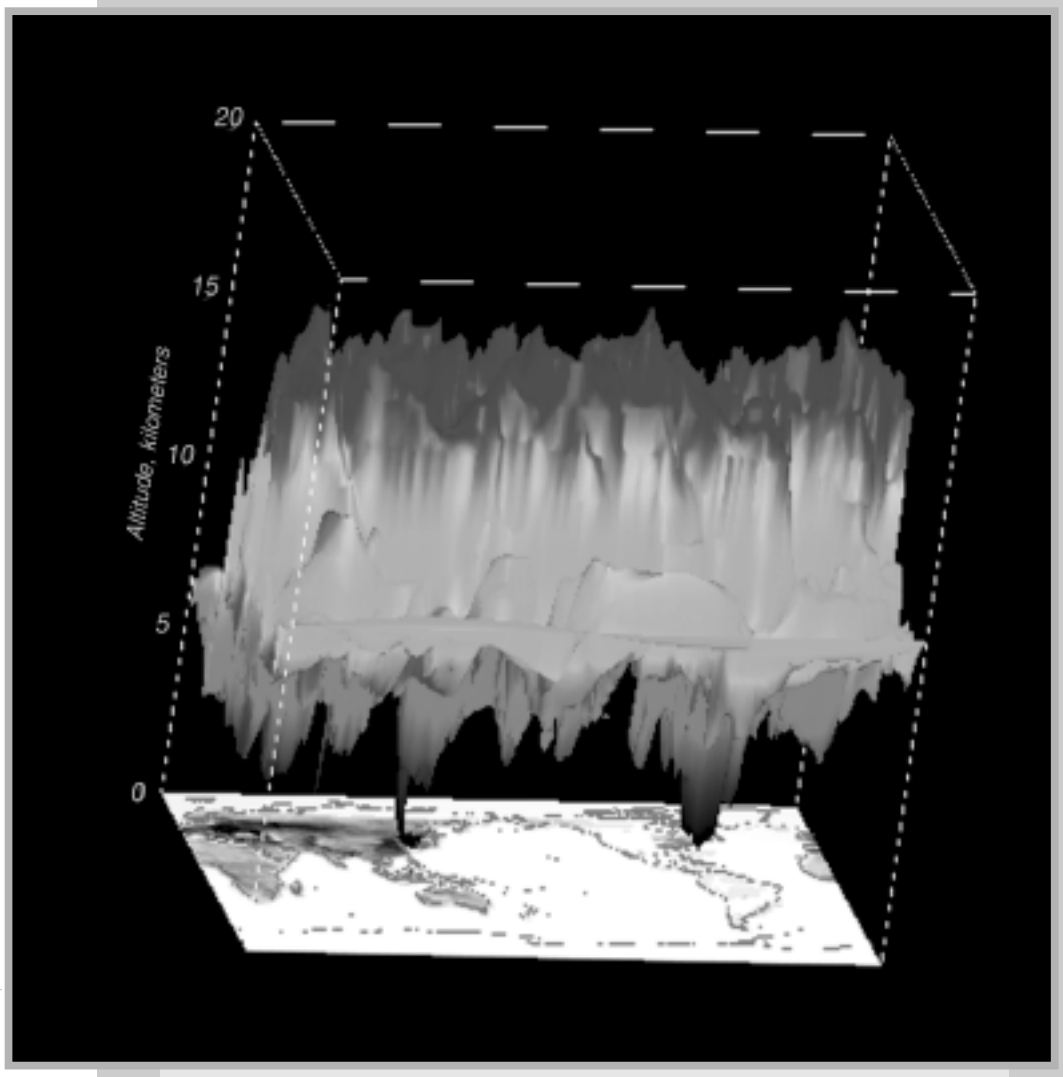
In 1972, U.S. decision-makers needed information on the potential effects of a proposed fleet of supersonic transports (SSTs)— faster-than-sound aircraft — that would fly in the stratosphere. Concerns were raised that the exhaust emissions might chemically react to thin the stratospheric ozone layer, which helps protect us from sunburns and skin cancer. Livermore's model of stratospheric ozone was one of the world's first to examine ozone interactions with the SST's nitrogen oxide emissions.

In addition, the model made clear that the use of a large number of megaton-size explosions in a nuclear war would seriously deplete stratospheric ozone. This finding played a central role in a 1974 National Academy of Sciences study on the potential long-term worldwide effects of multiple nuclear weapons detonations, adding impetus for the two superpowers to reduce weapon yield and the size of their nuclear arsenals.

A later Livermore model indicated that continued use of chlorofluorocarbons (CFCs) would severely deplete stratospheric ozone, prompting international negotiations on limiting CFCs and U.S. prohibition of CFCs as spray-can propellants. The Laboratory is now the Core Modeling Team for the NASA Global Modeling Initiative.

ATMOSPHERIC modeling

1972



Current atmospheric chemistry modeling capabilities can simulate ozone mixing between the stratosphere and near-surface altitudes.

in other NEWS

Around the Lab

Technology Training Program
This program, developed early in the Lab's existence, successfully introduced students, teachers, and industry to techniques developed at LLNL. This photo shows a computer demonstration sponsored by the Lab at the Arroyo Mocho School, a public grade school in the Lab's hometown, Livermore.

Around the nation

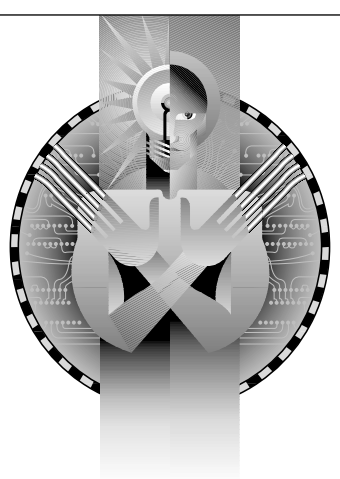
- **Congress ratifies ABM Treaty**
- **Nixon re-elected**
- **Supreme Court rules death penalty unconstitutional**
- **"M*A*S*H," "The Godfather," "American Pie" and *Watership Down* are introduced**

Around the world

- **SALT I accord signed**
- **Vietnam peace agreement signed**

For more of the Lab's rich history, check out the Timeline, located at : http://www.llnl.gov/timeline/

Join us to celebrate 50 years of science & technology accomplishments.



Save these dates!

SCIENCE DAYS

AUG. 1ST, 2ND 2002

Getting 'Down to Earth, Back to Nature'

JULIE KORHUMMEL/NEWSLINE

Community members got a chance to get up close and personal with California wildlife at the Lab's "Back to Nature, Down to Earth" event at the Visitors Center last weekend.

The event showcased the science of nature and earth, featuring live animals (left) from the Lindsay Wildlife Museum of Walnut Creek.

Other highlights included interactive LEGO robots (upper right), by Kathy Fritz of Engineering; the Lab's Fun With Science demonstrations (lower left), presented by Elvis Spencer of DNT; an Energy Bike provided by Plant Engineering; EPD displays of endangered and threatened species that have found haven at the Lab, as well as an environmental diorama to demonstrate pollution via stormwater runoff; an exhibit by the Explorer Post Scouts, led by the Lab's Joe Shinn; and puppet making for children, led by Will Coleman, Public Affairs tour guide (lower right).

Technical Meeting Calendar

Friday 24

H DIVISION
"The Computational Microscope: Probing Surface Properties With First-Principles Molecular Dynamics," by Nicola Marzari, MIT. 10 a.m., Bldg. 319, room 205 (badge required). Contacts: Giulia Galli Gygi, 3-4223, Karen Lema-Crowe, 2-3760.

MATERIALS SCIENCE & TECHNOLOGY
"Dynamic Compression of Hydrogen and Other Small Molecular Fluids at Mbar Pressures," by William J. Nellis, LLNL. 3:30 p.m., Bldg. 235, room 1090. Coffee and cookies will be served at 3:20 p.m. Contact: Rebecca Browning, 2-5500.

Tuesday 28

RADIATION DETECTION CENTER
"Underground Nuclear Testing: A Retrospective," by Mike Moran, 11 a.m., Bldg 151, room 1209 (uncleared area). Contacts: Christie Shannon, 3-6683, or Greg Schmid, 3-7866.

Wednesday 29

MATERIALS RESEARCH INSTITUTE
"Strongly Correlated Electron Phenomena in Filled Skutterudite Compounds," by Brian Maple, UC San Diego. 3:30 p,m. Bldg. 219, room 163 (badge required). Contact: Joanna Allen, 2-0620.

CHEMISTRY & MATERIALS SCIENCE
"Variability of Dust Aerosols and the Characterization of Ambient Particles with Respect to Atmospheric Visibility," by Keith Coffee. 10 a.m., Bldg. 154, room 1013 (uncleared area). Contacts: Eric Gard, 2-0038, or Bonnie McGurn, 3-2764.

Thursday 30

CHEMISTRY & MATERIALS SCIENCE
"How C&MS Is Helping To Make The NIF Successful," by Alan Burnham, LLNL. Noon, Bldg. 151, room 1209 (uncleared area). Contacts: Tony Esposito, 4-3497, or Linda Jones, 3-8839.

MEDICAL TECHNOLOGY PROGRAM
"New On-line Measurement Methods for Characterization of Gases and Aerosol Particles" by Ralf Zimmermann, University of Augsburg, Germany. 10 a.m., Bldg. 154, room 1013. Contact: Matthias Frank, 3-5068.

ELECTRONICS ENGINEERING TECHNOLOGIES
"Frequency Assignment in a Satellite Communications System," by Yiming Yao, interview candidate. 9 a.m., Bldg. 131, room 1645 (cleared area). Contact: Steve Azevedo, 2-8538.

Friday 31

ELECTRONICS ENGINEERING
"A Process Perspective on Microtechnology Systems," by Duyen T. Nguyen, interview candidate. 9:30 a.m., Bldg. 141, room 1104 (uncleared area). Contact: Steve Azevedo, 2-8538.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to tmc-submit@llnl.gov.

NEWS OF NOTE

A day in the life of a counterintelligence officer

By Jeff Morris
SAFE PROGRAM

Counterintelligence officers aren't very visible, comparatively speaking, and don't need to be, due to the nature of their work. Many people don't have a clue as to what they do, or that they even exist.

However, CIOs perform a very important function, particularly at national laboratories, which have information that people outside the laboratories would love to have and, therefore, that deserves protecting. They also have information they want to share — information that helps employees perform their jobs and that can protect employees from unsavory characters such as spies and terrorists.

CIOs work closely with the scientists and other employees they have come to know within the lab environment.

"Before Lab employees go on official or vacation travel to countries that are sensitive for counterintelligence or counterterrorism reasons, I do what I can to provide them with information they can use on security, safety, and sometimes health," said Stew Daley.

Daley is one of a handful of CIOs who serve the more than 8,500 LLNL employees — sometimes in unexpected ways — as members of the Laboratory's Security Awareness For Employees (SAFE) Office.

"More than a few Lab employees who travel to exotic places have used my foreign language phrase books to negotiate taxi transactions," said Daley. "While I'm helping them with such essential things, I also hope to make them aware of recent incidents of intelligence snooping or terrorist attacks."

Daley gets something out of the interaction too.

"Interacting with world class scientists and engineers and trying to understand their work is a challenge for me. The patience of many Lab scientists has greatly enhanced my social 'science' education," said Daley. "They take the time to explain what they are doing and I appreciate the positive working relationships we've developed. It's clear that they give 100 percent to their work and I respect them for that."

Travelers share info through SAFE

Daley may meet with Laboratory employees before and after their trips to countries on DOE's "sensitive countries" list. These are countries that DOE has determined are actively seeking our sensitive technologies.

In the briefings, which occur before a trip, Daley can provide warnings to the Laboratory traveler from the information he has gleaned from a variety of sources, particularly from DOE employees who have been to a given destination and have provided helpful information in their post-travel debriefings.

Through debriefings, Laboratory employees have an opportunity to provide information on their experiences that will benefit other Lab travelers who follow in their flight path.

For example, if a Laboratory traveler encounters someone who seems to be trying to ferret out information, such as by attempting to move conversations into classified realms, the traveler can pass that information on to future laboratory and DOE travelers through Daley and his counterparts in the SAFE Office.

SAFE's mission is to inform and protect LLNL employees in matters such as counterintelligence; counterterrorism; protecting business information; foreign visits, assignments and contacts; and foreign travel to sensitive countries.

Upcoming SAFE talk

Connie Allen, a professor at Center Intelligence (CI) Centre in the Washington, D.C., area will speak on:

"Vulnerabilities of the Foreign Traveler"
Tuesday, June 4
1:30 - 3:30 p.m.
Bldg. 543 Auditorium
Unclassified

All Laboratory employees are invited to attend, although this abbreviated seminar was prepared specially for travelers to foreign countries, especially nations on the DOE list of sensitive countries. (See: http://www-r.llnl.gov/safe/list.html)

Allen is a counterintelligence expert whose experience includes 25 years in the U.S. Army as a senior instructor and counterintelligence special agent. Her presentation reflects her extensive knowledge of surveillance, tradecraft, and espionage operations — and which techniques Laboratory employees might encounter when they go on foreign travel.

From one exciting job to another

Daley concluded a 27-year career with the Federal Bureau of Investigation (FBI) before he came to LLNL. He was looking for and found a job where he could use the experience he gained from investigating foreign intelligence services and terrorist groups from the Middle East and South Asia. His knowledge of their methods of operations, including how they may attempt to exploit Americans and foreign nationals residing in the United States, makes him a valuable asset to the SAFE Program and, especially, to the people SAFE aims to help and protect.

What makes Daley's work exciting? Interacting with intelligent, interesting people is one thing, he says. Variety is another.

The activities and focus of a CIO can change frequently, depending on the dynamic nature of foreign intelligence threats, targeting techniques, and foreign intelligence collection requirements. However, several roles remain constant throughout a CIO's work, such as:

• Giving up-to-date counterintelligence (CI) and counterterrorism awareness briefings, from public source information and classified U.S. intelligence reports, to Lab employees traveling to countries considered sensitive by DOE/NNSA.

• Debriefing these travelers on their experiences, especially possible or apparent intelligence collection efforts against them, such as electronic surveillance and attempts by individuals to elicit national defense research and development information.

• Reviewing proposed visits and assignments to Laboratory programs by sensitive country foreign nationals for any relationship they may have with their country's intelligence services or national defense institutions, as known by the U.S. intelligence community.

• Providing counterintelligence awareness briefings to Laboratory employees who host sensitive country foreign nationals, and working through any CI-related issues that may occur during those visits and assignments.

• Documenting incidents of CI concern by LLNL employees for the protection of those employees.

'We are here to help, protect employees'

Terry Turchie is the senior counterintelligence officer at LLNL and head of the SAFE Program. "We are here to help and protect employees, and that means all employees — including employees who travel abroad, hosts of foreign national visitors and assignees, and foreign national researchers themselves," Turchie said.

Turchie was quick to point out that when SAFE and its CIOs do uncover instances of possible espionage — almost always with the help of alert employees — they handle the information with the highest degree of confidentiality (again, to protect employees). If appropriate, SAFE coordinates follow-up investigation with the FBI.

"CIOs such as Stew Daley look at each situation. They use past experience and current risk assessments from SAFE analysts, DOE, and other sources in the counterintelligence community to provide awareness information that we hope will prepare our employees for any encounters with foreign intelligence services or other intelligence collection efforts against them."

Turchie said that SAFE acknowledges and supports the need for foreign national researchers and visiting scientists to come to LLNL and other national laboratories and for our scientists to interact abroad.

"We recognize the importance of international partnering to create forums for new thinking that transcends geographic boundaries. These interactions are essential to expanding science and technology in the U.S. national interest," he said.

"However," Turchie said, "we also are aware that there are potential risks to Lab employees in certain situations, and we want to ensure that our employees are protected."

CLASSIFIED ADS

See complete classified ad listings at https://www-ais.llnl.gov/newsline/ads/

AUTOMOBILES

2000 - Honda Civic EX, 2 dr, Automatic, sunroof, CD, power windows, locks, custom tires and rims, window tint, excellent condition, 26k, $14,500 209-832-2862

1994 - Dodge Van 98K mi, tow pkg, new brakes, capt. seats, etc. $5200 925-462-3055

1991 - Ford Probe, rebuilt transmission, 4 new tires, runs good, 122K miles, needs right front bumper/ fender /headlight, $1200 408-945-0250

1980 - Datsun 280Z good condition $300.00 925-447-7768

1996 - Ford Escort LX, 75K miles, spoiler, white, P/S, A/C, A/T, AM/FM Cass, great condition, great MPG, $4,700 925-462-9427

1987 - Fiero GT V6,alloys, silver/grey,auto,ac,cruise,all original,good condition $2900 510-708-0701

1987 - Toyota Supra, 50k miles. $1700 obo. 925-454-8525

1999 - Chevy Blazer 4 Dr LS 4WD Anti-Lock Brakes, power door locks, pw, keyless entry, CD 209-825-5687

1991 - Olds Cutlass Cierra, 94K miles, new paint & tires, clean, everything works great. AC, cassette, Smooth ride. $3,800. OBO 925-634-8647

1991 - Mazda Protege LX, 5 sp, red, sunroof, 150K miles, runs very well. $1,800. 925-820-4121

1999 - Heavy duty floor mats for the dodge or plymouth van, grey $80.00 new. $25.00 OBO 925-634-0423

1997 - Jeep Grand Cherokee, Laredo, 107K miles, V-good condition, 4WD, PS, anti-lock PB, PW, AM-FM cassette, etc. 209-474-7211

1995 - Cutlas Supreme in great condition - power windows & doors. Sunroof. Upgraded stereo system. Registration paid, Dk Green 925-449-2172

1999 - 1999 Camaro, excellent condition, 55k miles, AT, power everything, leather, chrome wheels, 72k mile extended warranty will transfer. $14000.00 209-830-9003

1969 - Impala/Caprice, 2Dr. coupe, BRAND NEW 350 engine/ TH350,brakes,incl MS,posi rear,seats,carpet 4500$ obo 209-527-4990

1995 - Mazda 626, 4 cyl, A/T, Auto/PW/PL/PS, AC, Color Grey, 119k mi, very good exterior, interior and running condition, asking $4,300 925-373-9312

1972 - super beetle convertable , runs well, great for parts. $1000 firm. 925-447-8095

1995 - Pontiac Bonneville SE. V6 (3.8L), A/C, Remote Lock, CD Stack, Leather, Great Tires w/Alloy. BB $5,250. Quick Sale - $4400/BO Talbot 209-499-6607

AUTOMOBILE ACCESSORIES

1999-2001 New Jetta: Factory Manual $30, bought $55; Spark Plug Boot tool, $20 (works for Audi too); Touch-up paint, green, never used,$1. 925-784-8095

Heavy duty floor mats, fits many vans and trucks, grey, from 1999 dodge caravan, good for mud, snow, skiing etc. $25.00 OBO 925-634-0423

Bed Liner for 8ft longbed Pickup from 1980 GMC Longbed, Fleetside $50 925-456-7528

4 Mickey Thompson Baja Claw Radial tires size 35/12.50/R15 with 70% tread left. $350.00 firm. 925-200-9550

Camper shell, 8ft, excellent condition for older model, top slightly raised above cab level, sliding side windows, $150, 925-449-2169

BICYCLES

Schwinn Continental 10 speed bike. 25 inch frame. Excellent condition. $35/obo 925-443-2743

NISHIKI 10 speed Sport Series, Aluminum alloy wheels. 19 inch frame, Almost new $ 80.00 925-443-7752

BOATS

10 foot folding Porta-Boat. Includes 3 hp motor, oars, cushions and anchor. $450/obo 925-443-2743

1979 Eliminator Sprint Jet Boat. This boat is clean,fast,fun, and loud. Boat must go asap. 10,000 OBO. 209-523-5458

91 Reinell 17ft. ski/fish boat w/trailer, V6 4.3L I/O, Excellent Condition Lo hrs, fish/depth finder, custom cover, Garaged $7600 OBO. 925-245-1414

KAYAK, Folbot Super, rigid frame two person 17 ft, very stable for lake/river/ocean. Ex cond. $525, incl. paddles 925-449-4338

ELECTRONIC EQUIPMENT

Handspring Visor PDA w/ serial sync cable, USB portable cable, backup module, leather case and 3 nice stylus. All for $40. 925-784-8095

Epson Stylus Color 800 inkjet printer. PC parallel or Mac serial interface. Works fine. $50 925-447-6728

2 Turntables for sale. Numark brand, belt drive. Excellent condition. $100 for both. 209-599-5071

Printer: Style Writer II inkjet Black and White plus its software driver for Macintosh. Good quality prints, $20. 925-455-4598

GIVEAWAY

Free-electric clothes drier. Looks & runs good. Broken heat control knob 925-447-6728

GE double oven/range, electric, almond color. It's old, it works, it's free but you have to come get it. 925-516-9510

HOUSEHOLD

BABY ITEMS: Playskool Step Start Walk n Ride $10 - helps baby learn to walk, Fisher Price Kick n Crawl barn $15 - on back play plus crawling toy 925-606-9781

Antique bedroom set, Waterfall style, double bed w/mattress & box spring + night stand, desser, & dressing table/round mirror. $500.00 209-571-3432

China Hutch, pine. Asking $500. Call L. Wadley 209-835-5475

Bunkbeds, wooden, with mattresses, good condition, $125. 2ea 5drawer oak dressers, good condition,$40ea. Oak entertainment center 6hx4.5w, $200. 209-823-0976

GARAGE SALE-Saturday, May 25th ONLY! 8:30-3:30-Multiple Families-196 Barber St., Livermore-Furniture/Kids Toys/Household Items-MUCH MORE! 925-323-4833

Excell stairway lift. Helps older and handicaped people get up stairs. Brand new. $2500.00. 925-443-0367

Maytag clothes dryer, elec., excellent cond., $30, lv. msg 925-245-1315

Freezer, Upright, $200 925-833-6061

TV 27in Sony exc. cond. $150, Portable A/C on wheels, used 4X, $150 925-600-9775

Furniture 4 Sale! TV/Stereo Cabinet $25; Couch Brown/Oak Trim $40; 5 drawer Wood Desk $30; Weber Kettle BBQ $15. Very Good Condition. 925-447-1428

Peking Glass snuff bottles, Chinese carved glass bottles, Many styles to choose from. $10ea. 209-606-6445

MISCELLANEOUS

Aluminum chain saw winch. Use a small chain saw motor to assist this windlass device. $200/obo 925-443-2743

Spinning Wheel - Clemes & Clemes, Traveler style, many accessories, works great just not being used. $350.00 209-571-3432

Beautifully framed pictures, good variety. Misc. prices,B/O. 925-449-3499

BABY ITEMS: Evenflo Megasaucer $25, Baby Trend Nursery Care Center and Playard LX (incl. bassinet and changing area) with two sheets $50 925-606-9781

Tractor, Allis-Chalmers, Model M crawler type with dozer blade, Has cracked block, but is complete. $500.00 925-443-7752

Coca Cola store front sign, 68 in. long by 24 in. wide, authentic 1955 vintage. Shows some age. Steel construction with mounting brackets. $500. 925-828-6253

Toddler swing - Fisher Price liftnlok, like new $10, covered sandbox, ride-ons, more. 925-454-0877

40 gallon Phoenix sprayer. 3.5 hp gas motor; long hose and spray wand. Use for Surflan. 925-373-6813

ProForm 580si Treadmill, excellent condition, $125.00 or BO. 925-455-8006

Wine Barrel 60 Gallon American Oak Used 3 years for Red Wine Excellent Condition. $65.00 925-443-7752

Britney Spears - Oak Arena Sat June 1/02. We cannot go and will sell our tickets at our cost. Sec 108 Front View of Stage. 925-447-1428

MOTORCYCLES

1996 - Honda, GL1500 Gold Wing Aspencade, 33K miles, Green, Cruise, Reverse, Intercom, Two Matching Helmets, AM/FM Radio, Very Good Condition, $8,900 925-828-3562

MUSIC INSTRUMENTS

Fender Precision Bass, excellent condition, rarely played. $350 obo 209-836-9082

PETS & SUPPLIES

Rescued pit/shepherd from Oakland needs home. 8 months, trained, sweet with people, cats, dogs. 510-601-9244

Two barred rock laying hens. $5 for both. 925-447-6728

Friendly Leopard Gecko looking for a good home. Belongings include a hot rock, ceramic log, and a glass aquarium. $55. 925-443-5418

Free to good home. Beautiful adult male siamese cat, neutered. 209-832-7133

Free abandoned kittens. Currently bottle feeding. One male, one female available around June 1. Reserve yours now. 925-449-9078

Akita Pups for Sale. 2Boys / 2Girls AKC, $300 - Ready June 1st 209-833-3928

Igloo-type plastic dog house for large dog (up to 100 lbs). Dog never used it. $50 OBO. 925-443-1699

Boxer puppies, pure break. 4 males avail June. Must see. Call for info. $300 925-753-0238

RECREATION EQUIPMENT

Onan 1500 Watt Generator. Near new condition. $450 925-443-2743

Treadmill, heavy duty professional quality, $100. Call after 5:15pm. 209-835-2751

Teather ball pole and basket ball back board. Pole set in concrete in tire. $10/bo 209-606-6445

Nordic Track and exercise bikes, various prices, 925-833-6061

RIDESHARING

Express your commute, call 2-RIDE for more information or visit http://www-r.llnl.gov/tsmp.

Orinda - Carpool from Lamorinda seeks 4th driver/rider. Meets near St. Stephens & Hwy 24. Lab hours 8:10am - 5pm. 925-253-0498, ext. 2-9823

Manteca - Looking for vanpool 6:30-7:00am/3:30-4:00pm 209-825-1580, ext. 4-5861

Ceres/Modesto - 14 psgr Enterprise deluxe van, 7:00-3:30, $115/month- 209-537-0229, ext. 3-6631

SERVICES

COWPOKES HORSE CAMP Riding Lessons, Weekly Riding Camps, Horses for Sponsor. 925-673-0938

House Painting - Over 16 yrs experience. Call for free estimate. 209-956-3718

Roofing, 28 yrs experience, fully insured 925-454-9200

CONCRETE:custom, stamped, colored, foundations, flatwork & more. Lic#787092-B. Over 20 yrs exp. Have portfolio. Free estimates. 209-833-8309

SHARED HOUSING

Livermore - Clean room,$650.00 a month.First,last,$200.00 cleaning deposit.N/S,N/P. 925-455-8043

Livermore -- - WANTED furnished rooms or shared housing for graduate summer students 8-10 weeks beginning June/02. Livermore area only. 925-447-1428

TRUCKS & TRAILERS

Ready for summer fun? For sale, Tioga motorhome, good cond.,1982, great floor plan,low miles,new tires,recent registration-$6995.00 209-839-8628

1990 - Nissan 300ZX 2+2 Good condition, 5-speed,PW,AC,T-Top,handles great! $5000 obo 209-824-7750

1987 - Collins 5th wheel. 26 feet fully self contained, sleeps 6. The best used rig you will find. $5800/obo 925-443-2743

1987 - chevy suburban w/under 90K mi. Great shape. $3500. 209-956-3718

1995 - GMC Z71 1500,350,a/t,a/c,pb,pl,pw,am/fm,cass.,cd,GM bed liner,campershell,pwr.seats,some new parts,very clean! 15,000.00 obo. 209-892-6589

1993 - 1993 Chevrolet Suburban 4X4 107,000 miles, maintained/runs like new, custom paint, towing, power extendable mirrors,fog lights. $12,999/make offer. 209-576-0217

1995 - Bronco XLT, 93K mi., Dealer maintained, 351 ci, AM/FM/Cassette, all power features, running boards, class III receiver hitch. $10,000 OBO. 925-245-1574

1982 - Ford F150,66k miles,short-bed,dualtanks,4.8 F/I,5spd man.bedliner,amfmcd,new tires, red w/gray int. good cond. Below blue book, $7800. 510-708-0701

Tool box for full size pickup. Opens both sides. Weather Guard R-125, white. Used two days. $250. 925-373-6813

1996 - Toyota Tacoma Xtra Cab- 4 cyl, 5 spd, liner, rear window slider, new tires, P/S, A/C, CD- 144k miles $5800 obo 209-982-0692

Shell fits standard bed Ford Ranger, Stockland, white fiberglass, very good condition,$300 925-443-5549

1996 - Ford Ranger XL; Xtra Cab; 4-cyl.; 5 spd; X-liner bed liner; CD; 63.5K miles; $5700 925-294-9810

1973 - VW BUS, smog exempt, all new brake harware including hubs, disk and rotors, 2 stage carborator. $2200.00 209-606-6445

2001 - Mazda B300 Ext. cab w/4 doors. Gold AT,AC, V-6 ,CD Alarm ,Keyless, Bedlinner,1500. miles. 535.oo mo.3/y 0%loan. 6yearwarrentry, 510-222-2652

1999 - Winnebago Rialta mini-motorhome in excellent condition with many extras including extended warranty. 26,200 miles. $39,900.00 OBO 925-447-4173

VACATION RENTALS

SOUTH LAKE TAHOE - 3 bedroom 2 Bath Chalet,newly remodeled,nicely furnished,all amenities,Park with Lake, tennis,playgound,etc. Great for Families,Reserve for Summer! 209-599-4644

WANTED

WANTED: A license plate frame from San Francisco Volkswagen or San Francisco Mazda. 209-825-1242

WANTED-Queen size mattress (close to new) If you have one not in use, possibly to give away. I would really apprciate the kind gratitudity. 510-693-0162

WANTED: Livermore High School grads, classes of 1982 and 1983 for combined reunion on 8/17/02. 925-294-9229 or 925-443-5890

Wanted. I need an Outboard Motor for small aluminum boat. 925-449-5441

Wanted - dog house, fiberglass or tuff stuff, medium to large. 925-449-8035

Due to space limitations, *Newsline* may withhold ads that have already run. They will still appear on the Web.

Driving under the influence of alcohol: What it will really cost you

Editor's note: The Lab's Traffic Safety Committee occasionally releases information on various aspects of traffic safety. This article, prepared by Traffic Officer Traci Rebiejo of the Livermore Police Department, offers some facts and figures on the unforeseen costs of driving under the influence.

Suppose you're 25 years old, and out on a Friday night. You've had a couple of beers — one too many in fact and your blood-alcohol level reaches 0.08 percent.

But you jump into your late-model domestic sedan anyway and drive away. On the way home you misjudge a turn, over-steer and crash into a "no parking" sign. Local police and fire departments respond to your collision. But you're not injured; only intoxicated. So you're arrested for driving under the influence of alcohol.

Now get out your calculator and open your wallet for the penalties that will be imposed. Hopefully your bank accounts holds enough to pay for this first-time drunk-driving offense. Here are the typical expenses you'll face.

$700 — Charge for "cost recovery" of the police and fire department time and personnel services during their responses.

$97.95 — Vehicle tow.

$149 — Booking fee at the local jail.

$1,150 —Attorney fee, which will provide approximately three non-trial court appearances.

$1,300 — Court fine for DUI.

$100 — Court assessment for victim/witness program.

$32 — Vehicle release from police department to reclaim towed car.

$42.50 — Pick-up fee at tow yard.

$825 — DMV hearing, with your attorney, to get your license back.

$160 — Missed half-day of work for DMV hearing.

$100 — DMV fee for suspended driver's license.

$12 — DMV fee for duplicate copy of your driver's license.

$571 — Driving under the influence awareness classes.

$55 — Administration fee for Sheriff's work — alternative program (picking up roadside trash).

$16 — Two-session work alternative program fee at $8 per session.

$320 — Work missed during work alternative program.

$640 — Work missed during court appearances.

$389.68 — Two-week compact economy car rental while your car is in the shop.

Your current insurance policy was $700 a year. Your rates will increase for three years — unless your insurance company decides not to renew and drops you.

$ 500 — Insurance collision coverage increase.

$140 — A 20 percent insurance rate increase for loss of "good driver" status for three years.

$1,000 — Insurance surcharge each year for three years.

$622 — Loss of all of your years of "driver experience" (each year for approximately three to nine years).

Which brings you to $8922.13 — your first year's total cost for a first drunk-driving offense.

Do the math. Then realize that risking a DUI arrest isn't worth it.

If you choose to drink, make the responsible decision: Don't drive! While the cost of a DUI arrest may be sobering, a human life is priceless.

LINC

Continued from page 1

Program, part of the Energy and Environment Directorate.

The objective is to provide local government agencies with an advanced operational atmospheric plume prediction capability that can be integrated with appropriate federal agency support for homeland security applications.

The terrorist attacks of Sept. 11 have heightened the concern about the release of airborne chemical and biological agents in urban environments. NARAC staff members say that a chemical or biological agent release in an urban area can extend out to large portions of a city and even the surrounding suburbs depending on the type of agent, size of release, dissemination mechanism and meteorological conditions.

"This program allows multiple jurisdictions to effectively share information about the areas and populations at risk," Ermak said. "Prompt predictions must be available during an event so that first responders can determine what protective actions need to be taken, what critical facilities may be at risk and safe locations where incident command posts can be set up."

In the initial stages of the project, NARAC tools and services will be provided to pilot cities and counties to map plumes from terrorism threats. Support to these local agencies is being coordinated through PTI and will include training and customized support for exercises, special events and general emergencies.

NARAC is a national emergency response service for planning, real-time assessments and detailed studies of incidents involving nuclear, chemical, biological or natural hazardous material. The center's main function is to support the DOE and the Department of Defense for radiological releases.

When a hazardous material is accidentally released into the atmosphere, NARAC scientists can map the probable spread of contamination in time for an emergency manager to decide if taking protective action is necessary. Since 1979, NARAC has responded to more than 160 alerts, accidents and disasters and supported more than 850 exercises.

Initial predictions using the end user's computer are available in less than a minute, while fully automated NARAC central system predictions can be delivered in five to 10 minutes. NARAC predictions can easily be distributed to multiple users such as local, state and federal government agencies.

"PTI links federal government initiatives with local governments that are willing and able to pilot, demonstrate, and utilize various technologies," said Ronda Mosley-Rovi, PTI's director of Environmental Programs. "LINC, as one of these initiatives, has the potential to save lives within our cities and counties by arming our first responders with a powerful tool that allows them to correctly chart the path of airborne materials and to quickly plan an appropriate response."

During the first year of LINC, the Lab and PTI have partnered with the City of Seattle to integrate NARAC technology with existing local agency technology and then test, evaluate and demonstrate the operational capability for emergency preparedness and response to chemical or biological urban terrorism. Eventually, the system would integrate city-county-state-federal operational emergency response.

NARAC has a distributed set of plume modeling and geographical information display software tools available to end users. Tools include:

• Questionnaires to allow users to enter the information necessary to describe a real or potential atmospheric release of radiological, chemical or biological material and request a plume prediction.

• Fast-running local-scale plume models for initial hazard zone estimates on the end user's computer.

• Internet-based and web-based tools for accessing the advanced plume model predictions from NARAC over several types of communications links (public or private network, dial-up, wireless).

• Software to display model plume predictions of areas affected by air and ground contamination, potential health effects and affected population counts along with multiple, detailed geographical information layers such as roads, cities, buildings and bodies of water.

Users can obtain model results from the automated NARAC system without the NARAC staff involved although the staff is on-call 24 hours a day, seven days a week to provide scientific and technical assistance and training.

Earlier this year, NARAC researchers created a three-dimensional simulation of how a biological or chemical release could spread in and around Salt Lake City. The simulation was not created in response to any known threat. Rather, it was made to display how a dangerous airborne substance would flow around downtown buildings.

Besides accidental radiological releases, such as Three Mile Island and Chernobyl, NARAC has assessed natural disasters such as volcanic ash clouds (Mount Pinatubo in the Philippines) and earthquake-induced hazardous spills. The center also forecasted the path of smoke plumes from the Kuwaiti oil fires during the Gulf War and several toxic chemical accidents including the Tracy tire fire in 1999.

Construction phase begins Tuesday at new ISRF site

Initial construction for the Laboratory's new International Security Research Facility (ISRF) is scheduled to begin Tuesday.

During the initial phase of the construction, which will last about three months, there will be some disruption to two parking lots and two roads in the west area of the Laboratory. Additionally, one temporary parking lot has already been permanently closed.

The parking lot that will be most affected — with parking spaces temporarily unavailable — will be the A-4 parking lot, especially in the lot's west and south areas.

The A-5 parking lot will have a more limited impact, with some parking spaces out of use for short periods. The temporary Z-4 parking lot that was used during the construction of Bldg. 132 has been permanently closed as a part of the ISRF project.

The two road sections that will be temporarily disrupted are Fourth Street, from Bldg. 141 westward; and Avenue A, from Fourth Street south to Mesquite Way.

People looking for parking spaces will find plenty available in two other lots slightly further away — parking lots A-6 and A-7.

As a part of the initial construction, trenches will be dug and underground utilities — electricity, sewer, water — will be extended in preparation for the ISRF, which will be Bldg. 140.

People who have questions or concerns about the construction and related work should contact ISRF project manager Roger White at 3-2222.

Lab's new school tour program takes off

JULIE KORHUMMEL/NEWSLINE

This week, students from Matt Thomas's 4th grade class at Livermore's Jackson Elementary helped kick off a pilot school tour program sponsored by the Public Affairs Office. During their visit, students take a brief tour of the Lab site, look at Lab history and facts in the Visitors Center, and have some "Fun with Science" provided by Elvis Spencer (in photos) of Defense Technologies Engineering Division. Additional 4th and 5th graders from the Livermore Unified School District will participate in the pilot program next week.

DNA

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for Microbiology at the Salt Palace Convention Center.

In her presentation, Livermore biomedical scientist Lyndsay Radnedge discussed how the researchers have found 20 DNA regions or "signatures" unique to *Bacillus anthracis*, the bacterium that causes anthrax.

Currently, most DNA-based tests for B. anthracis are based on plasmid sequences, which can be genetically unstable, occasionally yielding false positives or false negatives. A plasmid is a small piece of DNA separate from the chromosome that is transferable between microorganisms.

The new DNA signatures represent an increased repertoire of chromosomal markers that can be used for anthrax detection.

The team's DNA signatures, which range from about 100 bases of DNA to 800 bases of DNA, were derived from the Ames strain of the B. anthracis bacterium. A robust set of DNA signatures should produce no false negatives for all strains of B. anthracis, and no false positives for closely related bacteria.

"Significantly, the DNA signatures we've discovered are found in all of the diverse strains of B. anthracis in the culture collection at NAU," Radnedge said.

The signatures are being checked against — and are so far different from — other strains of Bacillus and related microbes. Of equal importance, they are not represented in the collection of pathogenic non-anthrax Bacillus strains so far examined, decreasing the possibility of false positive results.

During the next two months or so, the DNA signatures will undergo an extremely rigorous screening process to select the optimal signatures. Once screened, the signatures are expected to be submitted to the Atlanta-based Centers for Disease Control for further validation.

Once primers are developed from the B. anthracis signatures, they can be used for rapid, specific, DNA-based pathogen detection on many platforms, including the Livermore-developed portable instrument known as the Handheld Advanced Nucleic Acid Analyzer, (HANAA). They can also be used in a detection system developed by Livermore and Los Alamos scientists that was used at the Salt Lake City Olympic Games. These polymerase chain reaction-based systems can be used to detect and identify pathogens based on their DNA sequence within an hour.

In addition to Radnedge and project leader Gary Andersen, other Livermore biomedical scientists who have worked on the project are Cheryl Strout, Silvia Gamez-Chin, Anne Marie Erler, Julie Avila and Paula McCready.

The DNA signatures were evaluated using the B. anthracis collection of Northern Arizona University microbiology professor Paul Keim, and species closely related to B. anthracis from the collection of Los Alamos National Laboratory.

Additional related research is under way at Livermore by Andersen's group to characterize other microbes in the environment that might interfere with these assays. In further research, Livermore and Los Alamos scientists are sequencing different pathogens for future signature development to broaden the suite of pathogens that can be rapidly detected.

The signatures for B. anthracis were developed under funding primarily from the NNSA's Chemical and Biological National Security Program as well as the DOE Office of Biological and Environmental Research and other federal sponsors.

FOOD

Continued from page 1

type these bacteria normally required many hours to days to complete because of the need to culture and prepare samples and conduct analysis.

However, with the rapidly growing development of DNA signatures and new polymerase chain reaction (PCR)-based DNA analysis systems, the tests can now be conducted in less than one hour.

"We can also tailor our tests to distinguish harmful forms of different organisms from the benign forms," McCready said.

Livermore researchers and other biomedical scientists have developed highly accurate DNA signatures for the bacteria that cause plague and anthrax, as well as for other organisms.

This work has been done in collaboration with Los Alamos National Laboratory researchers and the Bioterrorism Rapid Response and Advanced Technology Laboratory of the Centers for Disease Control in Atlanta.

During the past year, the Livermore DNA assays have been used to test more than 10,000 complex environmental samples. Individual DNA markers in these assays have been accurate 99.99 percent of the time and the composite pathogen test has been 100 percent accurate, McCready said.

Before breakthroughs in DNA sequencing and other advances, it often required years to find unique DNA signatures to help identify some harmful organisms, McCready said. DNA signatures can now be found in weeks to months.

"The reason this is important is because if a new bug is identified, we can quickly develop DNA signatures for new strains of pathogens," she said.

The use of DNA signatures to detect food-borne diseases would represent another application for the emerging technology. Last year, Livermore's DNA signatures were used for the first time to detect a public health disease in the environment when collaborators at Northern Arizona University (NAU) used them to detect plague.

In the past, tests to confirm whether plague is present in an environment have usually required seven to 10 days.

Last spring's finding of plague, in a small rural community northwest of Flagstaff, Ariz., was confirmed within four hours by a team of researchers led by NAU microbiology professor and plague expert Paul Keim.

The Livermore DNA signatures were also used in February as part of a detection system deployed by Los Alamos and Livermore national laboratories at the Salt Lake City Olympic Games.

Designed to detect the criminal use of biological agents, the system is called the Biological Aerosol Sentry and Information System, or BASIS.

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